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Marshall Team Readies for Annual Combined Federal Campaign Kick Off Oct. 2

By Bill Hubscher

Sometimes the best kind of gift you can give isn't found in a store.

Organizers for the annual Combined Federal Campaign, or CFC, want to start the holiday season of giving this year by kicking off the annual charitable drive with an agency fair event Oct. 2.

The lunchtime kickoff event, to be held in the quad of the 4200 complex

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Wind Tunnel Testing Used to Ensure SLS will 'Breeze' through Liftoff

By Megan Davidson and Sasha Congiu Environmental factors, like wind gusts, can factor into an aircraft's performance. NASA's new heavy-lift launch vehicle, the Space Launch System (SLS), is no exception when it comes to Mother Nature.

NASA engineers and contractors recently completed liftoff transition testing of a 67.5-inch model of the

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NASA engineers and contractors tested four different payload configurations during the liftoff transition testing of a 67.5-inch model of the SLS at NASA Langley Research Center's 14-by-22-foot subsonic wind tunnel. (NASA/Langley)

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from 11 a.m. to 1 p.m., weather permitting, will feature Sheila McDonald, a program analyst with the Mission Operations Lab who has worked closely with several local charities, and Angela Hawke, executive director of The CARE Center. As the event is held during lunch, hotdogs and drinks will be available free of charge.

McDonald has delivered hot meals as a volunteer for Meals-on-Wheels and fed the homeless while supporting the Salvation Army, but she has a special place in her heart for the Harris Home for Children in Huntsville. She not only is a board member for the foster home for youth, she was a teen resident there for four years.

"My time at the Harris Home taught me the value of helping others and the joy I can help bring them," McDonald said. "I try to inspire and encourage other people who may have been in similar situations and help them achieve their maximum potential."

Angela Hawke, who previously has worked with many nonprofit organizations, has been executive director of The CARE Center in Huntsville since 2010. The organization seeks to reduce poverty through education, employment resources, recovery programs and emergency services.

"Starting at an early age, my mother and grandmother taught me to lend help in time of need," Hawke said. "I try to offer support, lend an ear to listen or even a hot meal. Anything I can do to help people live fulfilling and fruitful lives."

Personnel from many other local charitable organizations also will be on hand for the Oct. 2 kickoff to discuss ways Marshall team members can help in their organizations' missions to assist others – whether through volunteering or donations.

This is only one of several ways the Marshall Center workforce can learn about opportunities to support these groups. More than 30 bus tours are scheduled to give team members the opportunity to visit local charities.

CFC Bus Tours Schedule

Marshall team members are encouraged to sign up early for a CFC bus tour to visit one of the local charitable organizations funded by the CFC. To sign up, visit the CFC page on ExplorNet.

Ability Plus -- Oct. 16, Nov. 13, 9-11 a.m. **American Cancer Society** -- Oct. 15, 9-11 a.m. and 1-3 p.m.

American Red Cross -- Nov. 12, 9-11 a.m. and 1-3 p.m.

Burritt Museum -- Oct. 24, Oct. 30, 10 a.m. - 12 p.m.

CASA Gardens -- Oct 10, 9-1 a.m.; Oct. 17, 1-3 p.m.

CASA Warehouse -- Oct. 15, 9-11 a.m. and 1-3 p.m.

Christian Woman's Job Corps -- Oct. 23, Nov. 5, 9-11 a.m.

Christmas Charities Year Around -- Oct. 22, 9-11 a.m. and 1-3 p.m.

Downtown Rescue Mission -- Oct 24, Oct. 30, 1-3 p.m.

Habitat for Humanity -- Oct. 17, 9-11 a.m.; Oct. 23, 1-3 p.m.

Hospice Family Care -- Oct. 22, 9-11 a.m. and 1-3 p.m.

Huntsville Bible College -- Nov. 5, Nov. 21, 1-3 p.m.

Huntsville Hospital -- Nov. 13, 1-3 p.m.; Nov. 21, 9-11 a.m.

Botanical Garden Society -- Oct. 29, 9-11 a.m. and 1-3 p.m.

Senior Center -- Nov 6, Nov. 7, 9-11 a.m. Huntsville Museum of Art -- Oct. 10, Oct. 16, 1-3 p.m.

Rescue Squad, Inc. -- Nov. 14, 9-11 a.m. and 1-3 p.m.

Happy Trails Therapeutic Riding Center -- Nov. 6, Nov. 7, 1-3 p.m.

CFC organizers are already registering volunteers for Community Service Days -- dates and times when Marshall team members can sign up to help

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Marshall Hosts ATK Aerospace-Florida A&M University Mentor-Protege Agreement Ceremony

On Sept. 17, NASA's Marshall Space Flight Center hosted a Mentor-Protégé signing agreement between ATK Aerospace Systems, based in Promontory, Utah, and Florida A&M University in Tallahassee. The NASA Mentor-Protégé Program provides incentives for prime contractors to assist eligible small businesses in enhancing their capabilities to perform as prime and sub contractors. The agreement between ATK Aerospace Systems and Florida A&M marks Marshall's seventh Mentor-Protégé agreement -- four of which involve historically black colleges and universities like Florida A&M. Seated, from left, are Jenifer Scoffield, ATK small business manager; Jane Thomas, Solid Propulsion Support Office contracting officer; and Dr. Okenwa Okoli, chair of the Industrial Manufacturing Department at Florida A&M University. Standing, from left, are Yolanda Harris, Space Launch System (SLS) Boosters Office contracting officer representative; Bob Herman, ATK Huntsville vice president and program manager; David Brock, Marshall Center small business specialist; Alex Priskos, (SLS) Booster Element program manager; Todd May, SLS program manager; Robin Henderson, associate director of the Marshall Center; and Earl Pendley, Marshall Office of Procurement office manager. (NASA/MSFC/Ray Downward)



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build homes with Habitat for Humanity, or serve meals at the Downtown Rescue Mission, or even help escort and cheer on special needs athletes at the Special Olympics. A complete list of the various charities, with times and dates available to help, can be found on ExplorNet in the CFC group page.

When the official CFC drive ends in mid-December, the organizing committee hopes to have raised more than \$700,000 for charity.

Renee Higgins, executive chairperson for Marshall's CFC this year, is manager of the Training and Incentives Office in the Office of Human Capital. "I know how we come together to pursue NASA's mission," she said. "Now we want to take it a step further by coming together to bridge the gap for those less fortunate."

The CFC mission is to support and promote philanthropy, giving all employees an opportunity to improve the quality of life for all. Marshall's fundraiser is part of the annual Tennessee Valley Combined Federal Campaign, a joint effort between the Marshall Center, other federal agencies at Redstone Arsenal, and in surrounding Alabama and Tennessee counties.

Hubscher, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

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SLS in a 14-by-22-foot subsonic wind tunnel at NASA's Langley Research Center. Data acquired from the test will help prepare SLS for its first mission in 2017, Exploration Mission-1, which will deliver an unmanned Orion spacecraft to a stable lunar orbit to check out the vehicle's fully integrated systems.

Wind tunnel tests are a tried-and-true method to understand the forces an object may endure as it moves through the atmosphere.

Instead of learning how environmental factors affect the SLS only during flight, engineers have started at the beginning to improve understanding of how the environment also affects the rocket while it's sitting on the pad, ready for liftoff.

"In a typical wind tunnel test, we point the model into the flow field," said John Blevins, lead engineer for aerodynamics and acoustics in the Spacecraft & Vehicle Systems Department at NASA's Marshall Space Flight Center. "For the liftoff test, that's not the case. The wind is actually traversing across the model at much higher angles -- simulating a liftoff environment."

Engineers tested four different payload configurations of the SLS, carrying up to 130 metric tons.

"The test data is key to ensure vehicle control as we lift off and pass the ground tower," Blevins added. "At supersonic speeds, engineers can more easily compute the forces and moments, but that's more challenging at low speeds. This test is low speed, with winds in the tunnel only reaching up to 160 mph."

With winds up to 160 mph over the model, engineers can measure forces and moments that the air exerts over the vehicle.

"Moments, or torque, act like a twisting force on the vehicle," explained Jeremy Pinier, research aerospace engineer in Langley's Configuration Aerodynamics Branch.

Understanding forces and moments upon the vehicle at different wind conditions enables the vehicle to fly safely.

Engineers also used a technique for studying airflow



During the liftoff transition testing of a nearly 6-foot model of the SLS, engineers used a technique for studying airflow streamlines called smoke flow visualization, giving them insight into the data retrieved. (NASA/Langley)

streamlines called smoke flow visualization. Smoke is put into the wind flow and can be seen during testing. This allows engineers to see how the wind flow hits the surface of the model. "Understanding the flow patterns can give us insight into what we are seeing in the data," Pinier explained.

Now that the liftoff transition testing is complete, NASA engineers and contractors can apply their findings to the actual vehicle.

"We will be using the data we receive from this test to run flight simulations on the actual SLS vehicle and assess its performance," Pinier said. "There's nothing more motivating and exciting than contributing toward the design of a launch vehicle that will be travelling farther than humans have ever been."

The SLS capability is essential to America's future in human spaceflight and scientific exploration of deep space. Only with a heavy-lift launch vehicle can humans explore our solar system, investigate asteroids and one day set foot on Mars. Marshall manages the SLS Program for the agency.

To see a time-lapse video of engineers preparing for the test, click here.

Davidson, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications. Congiu is a public affairs officer at NASA's Langley Research Center.

Marshall Honors Top Contractors, Support Teams with 2013 Industry, Advocates Awards

By Kenneth Kesner

Numerous large and small business prime contractors, subcontractors and civil-service teams have been honored for leadership in the aerospace business community and sustained support for the work of NASA's Marshall Space Flight Center and for NASA's mission.

The awards were presented Sept. 19 during the 2013 Industry & Advocates Awards ceremony hosted by the Marshall Center at a meeting of Marshall's Small Business Alliance at the Davidson Center for Space Exploration in Huntsville.

Established in 2007, the Small Business Alliance helps small businesses pursue NASA procurement and subcontracting opportunities.

The 2013 award winners include:

- -- Teledyne Brown Engineering Inc. of Huntsville, named Marshall's Large Business Contractor of the Year for support of the center's Small Business Subcontracting Programs under the Marshall Systems Development & Operations Support Contract.
- -- Dynetics Technical Services of Huntsville, named Marshall's Small Business Prime Contractor of the Year for support provided under the Marshall Information Technology Services Contract.
- -- Plasma Processes Inc. of Huntsville, named Marshall's Small Business Subcontractor of the Year, for support to Teledyne Brown Engineering under the Systems Development and Operations Support Contract.

The Marshall Center presented Small Business Subcontractor Excellence Awards to:

-- EPro LLC, of Houston, Texas, for support to URS Corp. under the Marshall Center Operations Support Center contract.



The Marshall Integrated Program Support Team was named Procurement Support Team of the Year. From left are Dave Grove, program manager, NASA Office of Small Business Programs; David Brock, Marshall small business specialist; team members Cheryl Harrell, Bill Kahle, Mike Allen, Larry Davis, Tammy Bissell, Vanessa Jones and Freida Lowery; and Dave Iosco, deputy director, Marshall Office of Procurement. (Not pictured are team members Richard Leonard and Frank Andy Prince.) (NASA/MSFC/Fred Deaton)

- -- Florida A&M University in Tallahassee, for support to ATK Aerospace Systems under Marshall's Space Launch System Booster contract.
- -- Futuramic Tool & Engineering, Inc., of Warren, Mich., for support to the Boeing Company under Marshall's Space Launch System Stages contract.
- -- Irvine Electronics, Inc. of Irvine, Calif., for support to Aerojet Rocketdyne under Marshall's Space Launch System Engine contract.
- -- Yang Enterprises, Inc. of Oviedo, Fla., for support to URS Corp. under the Marshall Center Operations Support Center contract.

Small Business Advocate Awards were presented to Marshall Center Partnerships Manager Charles Nola, and to Debbie King, program manager for the MTS Marshall Integrated Program Support Services Team. Nola was recognized for his support

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of NASA/MSFC Small Business Programs in his role as Marshall's small business technical coordinator. King was recognized for her support of the NASA/MSFC Small Business Programs in her role as chair of the Marshall Small Business Executive Leadership Team.

Marshall engineer Virginia L. Garrison of the Engineering Directorate's Technical Management Office was named Small Business Technical Support Person of the Year -- her third such honor in the past four years.

The Marshall Integrated Program Support Team was named Procurement Support Team of the Year. Team members include Bill Kale, Cheryl Harrell, Mike Allen, Larry Davis, Freida Lowery, Vanessa Jones, Tammy Bissell, Richard Leonard and Frank Andy Prince. The award was for the team's service on the Marshall Integrated Program Support Source Evaluation Board.

Marshall's Engineered Solutions & Prototypes Team was named Program Support Team of the Year. Team members include Steven Spearman, Scott Worley, Byron Bartlow, Jeff Brown and Joseph Eversole. The award was for the team's service on Marshall's Engineered Solutions & Prototypes Source Evaluation Board.

A Certificate of Appreciation was presented to Gary W. Heard, procurement center representative in the U.S. Small Business Administration office on Redstone Arsenal.

NASA civil service employees nominate eligible individuals and organizations for awards. A panel of NASA business procurement officials evaluates each nominee's cost-conscious business practices, innovative processes and adoption of new technologies, as well as their overall contributions to NASA's mission and the agency's Small Business Program.

Center-level award recipients in several categories -- Large and Small Business Prime Contractors of the Year, Small Business Subcontractor of the Year, Technical Support Person of the Year and



Marshall's Engineered Solutions & Prototypes Team was named Program Support Team of the Year. From left are Dave Grove, program manager, NASA Office of Small Business Programs; David Brock, Marshall small business specialist; Dave Iosco, deputy director, Marshall Office of Procurement; and team members Jeff Brown, Steve Spearman, Joseph Eversole, Byron Bartlow and Scott Worley. (NASA/MSFC/Fred Deaton)

Procurement and Program Support Teams of the Year -- will be candidates for the agency-level Small Business Industry Awards.

For more information about NASA's Office of Small Business Programs,

visit: http://osbp.nasa.gov.

Kesner, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

'Reverse Mentoring' Can Aid Professional Development, Promote Conversation and Insight Into Issues

By Kenneth Kesner

When NASA Marshall Space Flight Center Director Patrick Scheuermann recently wanted to learn more about using Facebook, Twitter and other social media, he sought out a mentor from the center's Office of Strategic Analysis & Communications. He has also reached out to talk with employees working in the Space Systems Department, the Science and Research Office and elsewhere across the center.

Leadership and development experts say this kind of "reverse mentoring" -- in which experienced workers or executives hone skills or acquire fresh ones from newer, often younger, employees -- is on the rise, spurred by the increasing pace of discovery and technological development.

Scheuermann is acutely aware that new things are being taught in college classrooms since he earned his degree in mechanical engineering 28 years ago. He knows the benefits of keeping an open mind, listening and gaining from people who graduated more recently, or who have recently completed training programs in industry or elsewhere.

Just as important, the mentoring experience creates opportunities for conversations that expose him to different perspectives about working for NASA and the Marshall Center.

"In today's world, everything advances so far, so quickly, that if you surround yourself with the same people all the time, you're likely to get the same opinions all the time," Scheuermann said. "Everybody here at the Marshall Space Flight Center brings great value to the table. If your ears aren't open, you're going to miss out on so many great opportunities to better yourself personally and contribute to the greater good of the organization."

With traditional mentoring, less-experienced or younger members of the workforce learn from seasoned employees and managers about building professional relationships and working at the center. Several senior employees across the agency are currently being mentored by junior employees to acquire new knowledge or enhance new and emerging skills.

This reverse mentoring is not a one-way exchange of information, said Dr. James Andrews, manager of the Marshall Center's Organization and Leadership Development Office in the Office of Human Capital. It's a way to help build trust in a multi-generational workforce.

In face-to-face conversations, Scheuermann learned directly from several employees about their experiences at the Marshall Center. Did a newly hired engineer feel welcomed? Did she get help when needed? How are new initiatives being received?

"Reverse mentoring is also an avenue for managers to pass down information about important issues," Andrews said. During Scheuermann's face-to-face conversations with junior employees, he was learning, but he also had the opportunity to share his thoughts about NASA's missions, the center's role in those plans and his vision for the future.

"This was an extremely beneficial experience," said Jessica Gaskin, a physicist in the X-ray astronomy group, part of ZP20, the Science and Space Technology Projects Office.

Her meeting in Scheuermann's office was the first time she had ever spoken to the Marshall Center's director. Among the topics discussed were support for the "High Energy Replicated Optics to Explore the Sun" or HEROES X-ray telescope project, and center infrastructure. They talked about family issues, as well.

"It helped me to understand the degree to which the center is supporting science and how much Mr. Scheuermann cares about people in general," Gaskin said. "Flexibility in the workplace and flexibility in how manpower is spent in engineering and science

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is critical."

"I got a good take-away from it," said Adam Burt, who works in ES22, the Thermal and Mechanical Analysis Branch. When it became known that Scheuermann wanted to meet with several mentors, Burt's name was put forward by his organization. He began working at Marshall full-time in 2011 after earning his bachelor's degree in aerospace engineering at the University of Alabama in Huntsville. In 2010, he worked as a co-op student in the branch.

Burt said it was flattering to be chosen to speak with the center director, and it was interesting to hear Scheuermann's focus and vision. Burt is involved with designing a lunar pallet lander and hardware to support hazard avoidance test flights for the Mighty Eagle robotic lander. He does not work on the Space Launch System and said it was good to know that top center management places high value on the smaller projects that involve so much of the workforce.

"It was a very casual meeting," Burt said. "It was just a conversation."

And that is by design. "In conversation, people informally express things they may be uncomfortable saying in front of an all-hands meeting in Morris Auditorium or to other groups," Scheuermann said. Mentoring of all kinds helps promote an environment in which people feel comfortable raising questions and talking about important issues. Be aware of the chain of command, he said, and be respectful. But don't be afraid to be heard.

"We're going to lose big if the workforce here believes they're in a society where they are not free to speak up," Scheuermann said.

Conversation can be taken for granted, but is a powerful tool for supervisors, Andrews said. His office is piloting a "developmental conversations" initiative at Marshall, in which supervisors and employees talk about their work, professional development and other matters -- including whether

a senior or junior employee would benefit from having or being a mentor.

"Mentoring is just another piece of development, like doing a rotation or taking a course," he said.

Most mentoring at Marshall occurs informally about subject matter expertise, and that's good, said Kimberly Keith, an organization development specialist in the Organization and Leadership Development Office of the Office of Human Capital. There have been pilot programs to study and explore more structured models.

"Some of the feedback we got is that an informal model works best at Marshall," she said. "A lot of the mentoring that occurs here is really organic."

It may be informal, but help is available. Keith is the project manager piloting a "Developmental Conversation Workshop," in which supervisors and employees can learn how to have that conversation. During the process, they can mutually agree on whom to approach as a mentor. Andrews said the office is working with two organizations to refine the program, and plans to introduce it center-wide in 2014.

"Key to this is the employee and supervisor having that good conversation," he said. "The supervisor is the key linkage in a person's engagement, satisfaction and retention."

For more information or to find out about mentor/mentee training, contact Kimberly Keith.

Kesner, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

Marshall Team Captures Gold and Valuable Experience at Aerial Vehicle Competition

A small hexcopter -- a helicopter with six sets of rotating blades, built by Marshall Space Flight Center engineers -- whirls through in the clear skies over the Kennedy Space Center on Sept. 11. The flight was part of a competition internal to NASA to create autonomous and remote controlled aerial vehicles. A small team of young engineers was challenged with applying NASA's system engineering practices and system review processes to a small technical project. The competition, which included teams from the Johnson Space Center and Kennedy, tested the engineering practices of the Marshall Center's "Aero-M" team and the performance of their vehicle as it conducted a simulated search-and-rescue mission. The vehicle was tasked with scanning a mock airplane crash site, identifying the airplane, a replica "black box" and several crash dummies, using sensors and software developed and installed in the aircraft. (Image: NASA/ Adam Kimberlin)





The Marshall Center's "Aero-M" team assembles its unmanned aerial system, or UAS, shortly before taking flight at the Kennedy Space Center. The Marshall team that built the hexcopter -- involving engineers representing every Marshall engineering department -- won the UAV competition, which was a training activity for the NASA Academy of Program/Project & Engineering Leadership, or APPEL. While technology developed during the competition has practical uses, the immediate benefit and goal of the competition was to develop additional skills and experience for young engineers learning the details of NASA's project development and review process. NASA engineers from the Ames Research Center, Dryden Research Center and Langley Research Center judged the competition. (Image: MSFC/Adam Kimberlin)

Marshall Team Encouraged to Take High Risk Conflict Resolution Training to Learn About Workplace Violence

A workplace violence prevention awareness class is now being offered at NASA's Marshall Space Flight Center.

The High Risk Conflict Resolution Training is a four-hour, hands-on seminar where attendees will learn what to do if faced with a critical incident of violence at work.

The class is designed for all Marshall team members, especially supervisors, managers and human

resource specialists. Everyone is encouraged to attend.

"This is a great training opportunity in which all can benefit," said Diana Simpson, Marshall's workplace violence prevention program coordinator in the Protective Services Office. "Participants will examine previous workplace violence incidents, learn the behavior of offenders, and practice verbal and physical tactics to survive a critical incident of violence in the workplace.

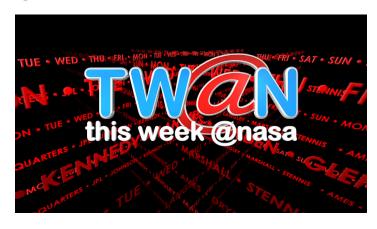
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Marshall Lands Two Stories on NASA-TV

The latest edition of "This Week @NASA," a weekly video program broadcast on NASA-TV and posted online, features two segments from the Marshall Space Flight Center.

The program showed video of Marshall's Innovation & Technology Day. At the Activities Building 4316, Marshall Center team members explored exhibits by more than 80 different organizations demonstrating their latest advances, and sharing their innovations with the hundreds of people who attended throughout the day.

Footage of Marshall managers in South Alabama to speak to small business owners also was shown on the same episode of This Week @NASA. The NASA Mobile Business-to-Business Forum, an event co-hosted by Marshall and the Mobile Area Chamber of Commerce, featured a behind-the-scenes look at working with the agency and how Mobile Bay-area



businesses can become involved. Space Launch System Program Manager Todd May, astronaut Tony Antonelli and other NASA team members also met with the public in a more informal setting -- the USS Alabama battleship -- to tell them about NASA's next rocket.

You can watch this edition of This Week @NASA at the NASA-TV YouTube channel.

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"Everyone wants to be safe in their work environment," she added. "The key to preventing a violent situation from occurring is 'Awareness+Action = Prevention.' This seminar will increase the participants' knowledge on what actions to take before and/or during a dangerous event."

Morning or afternoon sessions will be in Building 4627 on Oct. 2, 8 a.m.-noon; Oct. 9, 8 a.m.-noon; Oct. 3, noon-4 p.m.; and Oct. 10, 8 a.m.-noon.

The training also includes voluntary physical skill drills and practical exercises to overcome conflicts in the office environment. Participants should wear clothing and footwear suitable for physical activity if ones plans to take part in the physical activities.

Team members can sign up for the training through SATERN. For questions, contact Shawn Jayne, captain training coordinator, at 544-1961 or at shawn.d.jayne@nasa.gov.

Obituaries

Wilbur 'Bill' August Riehl, 84, of Las Vegas, Nev., died Sept. 17. He retired from the Marshall Center in 1986 as a materials engineer.

Henry C. Hill, 77, of Huntsville, died Sept. 16. He retired from the Marshall Center in 1999 as an aerospace engineer. He is survived by his wife, Charlene Hill.

James Wheeler Vann, 82, of Madison County, died Sept. 11. He retired from the Marshall Center in 1986 as an aerospace engineer. He is survived by his wife, Ursula Mrazek Vann.